ATN International, Inc.[1]
Initial E911 Progress Report
& Implementation Plan
Docket No. 07-114
August 3, 2017

I. INTRODUCTION

ATN is a non-nationwide CMRS provider serving rural and insular areas around the United States. In many instances, ATN is the only CMRS provider in an area, or at least the only CMRS provider of a certain technology. ATN operates both UMTS (GSM) and CDMA networks, although it does not necessarily operate both technologies in every area it serves. The areas served by ATN often lack substantial cell overlap, complicating or eliminating the ability to use network-based location technologies. These areas generally have either no buildings higher than two stories, or else very few such buildings (and even then, not much higher than two stories). Moreover, many of the PSAPs in the areas served by ATN are lacking in funds, and obtain the facilities capable of using additional 911 information either much later in time than do PSAPs in major urban areas, or else not at all.

The largest county where ATN serves its own subscriber base is Pima County, Arizona; however, ATN is licensed to serve only remote, rural portions of this county which lie in the Sonoran Desert – ATN does *not* serve metropolitan Tucson. In addition, there is one ATN service area consisting of an "urban" morphology – St. Thomas, USVI, one of the poorest and most insular areas in the United States. ATN does not serve any portion of any of the so-called "Test Bed" markets. Therefore, ATN prepares and files Live Call Reports for each of Pima and St. Thomas. (But see further discussion below regarding St. Thomas.)

Implementation of newer E911 location accuracy technologies has been, and remains, a challenge for a niche carrier such as ATN, especially where implementation involves more than handset-based facilities. Aside from the fact that many involved PSAPs lack the ability to utilize such information even if ATN were to deliver it to them, there is the cost-benefit balancing which must be assessed. Specifically, many of ATN's remote cell sites handle relatively less traffic (whether voice or data) per month than do the cell sites in urban areas or along interstate highways. Therefore, these ATN cell sites generate much less revenue than do other carriers' cell sites. If the cost of implementing E911 becomes too high, the entire cell site becomes uneconomic, and the only rational business action is to take the cell site out of service permanently. Where, as is often the case, the involved cell site had been the only cell site providing basic 911 service within a given area, the result is a loss of *any* 911 service to subscribers and incoming roamers – a result contrary to the intent of the 911 service rules.

ATN does seek subsidization and/or reimbursement of E911 expenditures where and when it can do so, but whether there will be such funding available for indoor location

[1] This Report is filed on behalf of ATN International, Inc. and its various direct and indirect subsidiaries which provide Commercial Mobile Radio Service ("CMRS") (collectively, hereafter, "ATN"), including partially owned indirect subsidiaries such as NTUA Wireless, LLC.

technologies in places without tall buildings is questionable, even assuming the local PSAP has paid to obtain the facilities to receive and utilize such information (which may well not be the case if the PSAP sees no benefit).

Another problem that ATN faces due to its concentration on rural niches is the inability to "blend" its results within a county. In the western United States, any given county generally covers a very large area, sometimes larger than Rhode Island or even Delaware. A nationwide carrier can blend its results across the entire county, and claim to have met the accuracy threshold, even though it comes nowhere near meeting the threshold in that portion of the county where ATN provides service. For example, in Pima County, Arizona, the four nationwide carriers can easily reach the 40% horizontal threshold, because for them, the vast majority of 911 calls occur in the dense confines of metropolitan Tucson; the relatively tiny proportion of their 911 calls occurring in cell sites in the Sonoran Desert are insufficient to drop their overall accuracy level below 40% for Pima County, even if those remote cell sites might have accuracy levels far below 40%. Conversely, since all of ATN's cells within that county lie in the Sonoran Desert, ATN missed the 40% accuracy threshold (at least as of the last quarter of 2016), even though it is quite possible that ATN surpassed the nationwide carriers' performance within the Sonoran Desert only.

In other words, it is not sufficient for ATN to match the performance of the nationwide carriers; ATN must surpass the performance of those carriers in rural areas.

Because of the unique challenges that it faces, ATN was unable, despite its best efforts, to achieve a 40% horizontal accuracy level for E911 calls by the deadline applicable to non-nationwide carriers, and timely sought a waiver from the Commission, filed in Docket No. 07-114 ("Waiver Request"). As discussed in that Waiver Request, ATN, working cooperatively with its equipment vendors and with its E911 contractor, West Corporation (formerly Intrado, hereafter, "West"), implemented a number of network design and other changes with a view to improving location accuracy, and has been achieving increasingly accurate results, at least for its handset-based CDMA operations. As also stated therein, ATN now expects to meet the 40% horizontal accuracy threshold , at least for its mainland networks serving ATN's own subscribers (as opposed to roam-only networks), by January, 2018.[2] ATN intends to amend and supplement that Waiver Request with respect to the US Virgin Islands, as discussed in Part II below.

Notwithstanding these challenges, ATN remains committed to providing the greatest level of location accuracy economically feasible to its subscribers, and to continually upgrading accuracy levels as and when new technologies become available that have relevance to ATN's service areas.

[2] To clarify, the CDMA networks serve *both* the ATN subscriber base in the involved market, *and* incoming CDMA roamer traffic. The CDMA results ATN reports to the FCC consist of the overall CDMA traffic, both local subscribers and incoming non-ATN CDMA roamers. The Pima County UMTS/GSM network, on the other hand, is 100% incoming roamer traffic.

II. ADDITIONAL DISCUSSION RE ST. THOMAS, USVI

On July 1, 2016, following receipt of FCC consent thereto, ATN acquired control of a number of communications subsidiaries of National Rural Utilities Cooperative Finance Corporation providing services in the US Virgin Islands operating under the brand name "Innovative" (the "Innovative Companies"), including, among others, companies providing CMRS within the USVI, including the island of St. Thomas. The former Innovative CMRS operation utilizes a GSM/UMTS network in St. Thomas; because it is a different technology, this CMRS operation was not immediately integrated into the pre-existing ATN CMRS operations, but was and is, so far, continuing to operate as a stand-alone network.

ATN reports filed in February, June, and August 1, 2017 inadvertently failed to include the acquired operation in those reports or filings. This error was discovered on August 2, 2017, and ATN is currently preparing revised Live Call Reports for St. Thomas for both the fourth quarter of 2016 and the first half of 2017 that will include this other CMRS operation, and intends to file those revised Live Call Reports later this month.

Also, on August 2, 2017, it was learned that none of the USVI PSAPs has ever delivered a request to Innovative to provide either Phase 1 or Phase 2 E911, so Innovative has never implemented any E911 location accuracy capabilities.[3]

In this regard, ATN is currently constructing a new UMTS/LTE CMRS network to replace both the incumbent Innovative UMTS/GSM network and the incumbent ATN CDMA network, and intends to migrate all current subscribers to the new UMTS/LTE network in late 2017. This new network will be equipped with the capability to provide Phase 2 location accuracy data to the St. Thomas PSAP as of January 1, 2018, and has been designed to meet location accuracy threshold requirements. Launch of this new system will immediately bring the benefits of Phase-2-compliance to the former Innovative subscribers.

Unfortunately, ATN will not know whether the new network will meet either the 40% location accuracy threshold or the 50% threshold until the end of the first quarter of 2018, when it can gather the first quarter results and see how the new network fared.[4] In its pending Waiver Request, ATN already has committed to submit its first-quarter 2018 results to the Commission by May 15, 2018. When ATN does so, and if for any reason the new network has not reached both the 40% and 50% thresholds, ATN will file another waiver request, and will begin implementing corrective technical measures appropriate for a network utilizing such technology.

---

[3] ATN intends to amend and supplement its pending Waiver Request later this month, to seek a waiver for the Viya Wireless (f/k/a Innovative Wireless) . St. Thomas network. Such a waiver is appropriate on the ground that no PSAP request for E911 location accuracy was ever received by Innovative. It is likely that this waiver request would be for a limited period only, as the existing Innovative network currently being replaced by a new UMTS/LTE network, as discussed in the text, *infra,* that the company expects to launch later this year.

[4] ATN would continue to operate the incumbent CDMA network, at least temporarily, solely to serve incoming CDMA roamers who might otherwise be deprived of service.

III. IMPLEMENTATION PLAN/MILESTONES

August 21, 2017:

File revised E911 Live Call Reports for St. Thomas, USVI, for each of the two involved reporting periods (*i.e.*, the 4th quarter of 2016 report that was due February 3, 2017, and the 1st half of 2017 report that was due August 1, 2017).

File amended and supplemented Waiver Request re location accuracy benchmarks with respect to St. Thomas, US Virgin Islands, for the soon-to-be-replaced legacy Innovative network, until that network is replaced with the new UMTS/LTE network.

January 1, 2018:

Meet 40% horizontal accuracy threshold for the Pima County CDMA network which serves ATN's local Pima County subscribers.

Meet the 40% horizontal accuracy threshold for the new St. Thomas UMTS/LTE network which will then be serving the local subscribers formerly served by the legacy networks of Innovative and ATN.

Either meet 50% horizontal accuracy threshold for the Pima County CDMA network and the St. Thomas UMTS/LTE network, or else file a request for temporary waiver of the 50% threshold (such waiver or waivers to be requested on or before May 15, 2018, once the first-quarter location accuracy results for each network are collected and analyzed).

Complete survey of PSAPs in ATN coverage areas to determine timing of PSAP capability of utilizing more precise indoor location information if delivered by ATN.

May 15, 2018:

Deliver first quarter location accuracy results to the Commission. If and to the extent those results show a failure to have reached either the 40% or the 50% location accuracy threshold, file an appropriate additional waiver request, and begin corrective technical measures.

August 1, 2018:

As to any PSAP within any of ATN's service areas which has notified ATN that it is capable of receiving and utilizing such data, make uncompensated barometric data available to such PSAPs with respect to any 911 call placed from any handset that has the capability to deliver barometric sensor information. Seek waiver if there are no such UBP-ready PSAPs.

Post-VoLTE Platform Launch:

At this time, ATN has no specific projected date for the deployment of a VoLTE platform.

The above timeframes represent ATN's current plans. If, due to unforeseen circumstances, ATN is unable despite its best efforts to achieve one or more of these goals, ATN

will promptly notify the Commission and timely seek a waiver of the Commission's rules, as appropriate.

III. HORIZONTAL ACCURACY PROGRESS

As discussed at length in the Waiver Request, ATN has been working diligently to reach the requisite horizontal location accuracy thresholds for non-nationwide carriers, at least with respect to those networks serving ATN's subscribers. ATN's results for the first half of May, 2017 (the latest available) indicate ATN achieved an accuracy level in Pima County in excess of the 50% threshold which the rules require non-nationwide carriers to meet by January, 2018. ATN is diligently working to maintain that level in Pima County. While there is no assurance of success, ATN has been, and continues to, implement the recommendations and changes recommended by its equipment suppliers and by West in order to achieve threshold levels.

With regard to St. Thomas, ATN is moving to replace both legacy networks with a new UMTS/LTE network to which all former ATN and Innovative subscribers will be migrated. This new network will be Phase-2-compliant from Day One. This is a considerable effort and expenditure which was deemed necessary and appropriate to yield service improvements for mobile subscribers in the USVI, and demonstrates ATN's commitment to meet location accuracy requirements.

IV. NATIONAL EMERGENCY ACCESS DATABASE

ATN has indirectly helped to fund the creation of the National Emergency Access Database ("NEAD"), through ATN's membership in CTIA. ATN has had no direct part in the creation of the NEAD. However, ATN's E911 contractor, West, has been retained by NEAD, LLC (the CTIA subsidiary established to implement NEAD) to design, implement, operate and maintain the NEAD Platform, and ATN believes that West will perform its functions in such a manner as to address the needs and concerns of ATN and other non-nationwide carriers. It is ATN's understanding that the NEAD should be ready for launch early in 2018.

After such launch, as and when PSAPs in ATN coverage areas notify ATN that they are capable of receiving and utilizing such data, ATN intends to begin using the NEAD. ATN is in communication with West as to the mechanics for same.

V. VERTICAL/Z-AXIS LOCATION ACCURACY

A. Uncompensated Barometric Pressure ("UBP") Information.

Section 20.18(i)(2)(ii)(A) of the Commission's Rules requires all CMRS providers to supply UBP information to PSAPs within three years of the effective date of that subparagraph, or as of August 1, 2018. ATN is discussing with West and with ATN's vendors the potential costs and mechanics to implement LPPe protocol in ATN's 911 server; this is the protocol to enable a handset to transmit available UBP on the device back to ATN's network for delivery to the PSAP. In addition, to use UBP it is necessary to install new software on ATN's 911 server. This software would parse the LPPe message from the handset and extract the UBP reading to send to the PSAP.

ATN is in discussions with West and its vendors concerning the potential cost and mechanics to install this software on its 911 server.

If ATN determines that none of the PSAPs in areas where ATN serves subscribers have the capability to receive and utilize this information, ATN may decide to postpone incurring the involved expense. If that turns out to be the case, ATN will so advise the Commission and seek an appropriate waiver, until such time as one or more of the relevant PSAPs is capable of utilizing UBP data.

B. Dispatchable Location/Z-Axis Location.

Section 20.18(i)(2)(ii)(E) of the Commission's Rules contains requirements for implementation of either dispatchable location or other z-axis vertical location technologies for non-nationwide carriers, within seven years (as to operations in any of the top -25 CMAs), and nine years (as to any of the top-50 CMAs), respectively. ATN does not serve subscribers in any of the top-50 CMAs, as defined by Appendix B of the Commission's *Fourth Report & Order*, 30 FCC Rcd 1259 (2015). While ATN has limited roam-only operations in a rural portion of the Phoenix CMA, to ATN's knowledge, the involved limited roam-only coverage area contains no buildings higher than two stories.

Notwithstanding, ATN intends to implement vertical location technology in its service areas, as and when: a) it is economically feasible; b) there are multi-story buildings in the particular coverage area; and c) the involved PSAP is installing the capability to receive and utilize such vertical location information. If and to the extent that it is determined to be infeasible to install appropriate vertical location information technology just for the desert roam-only operations in the Phoenix CMA, ATN shall seek a waiver for that operation, or, if necessary, shut down its rural/desert cell sites providing roam-only coverage within the Phoenix CMA.